FIG. 7

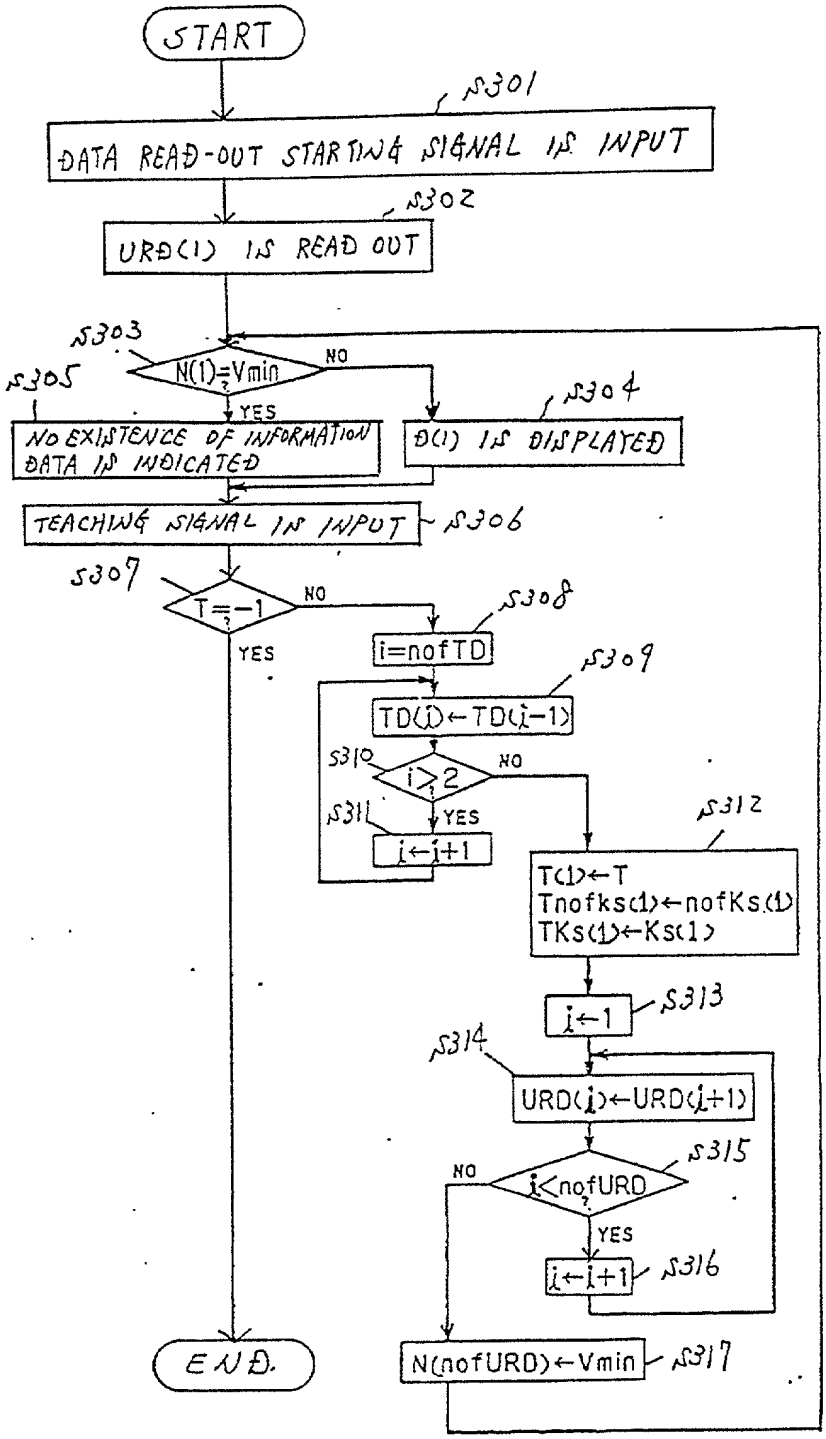

START
S301
DATA READ-OUT STARTING SIGNAL IS INPUT
S302
URD(1) IS READ OUT
S303
N(1)=?Vmin
NO
YES
S305
NO EXISTENCE OF INFORMATION DATA IS INDICATED
S304
D(1) IS DISPLAYED
TEACHING SIGNAL IS INPUT
S306
S307
T=?-1
NO
YES
S308
i=nofTD
S309
TD(i)←TD(i-1)
S310
i>?2
NO
YES
S311
i←i+1
S312
T(1)←T
Tnofks(1)←nofKs(1)
TKs(1)←Ks(1)
S313
i←1
S314
URD(i)←URD(i+1)
S315
i<?nofURD
NO
YES
S316
i←i+1
END.
N(nofURD)←Vmin
S317

FIG. 9

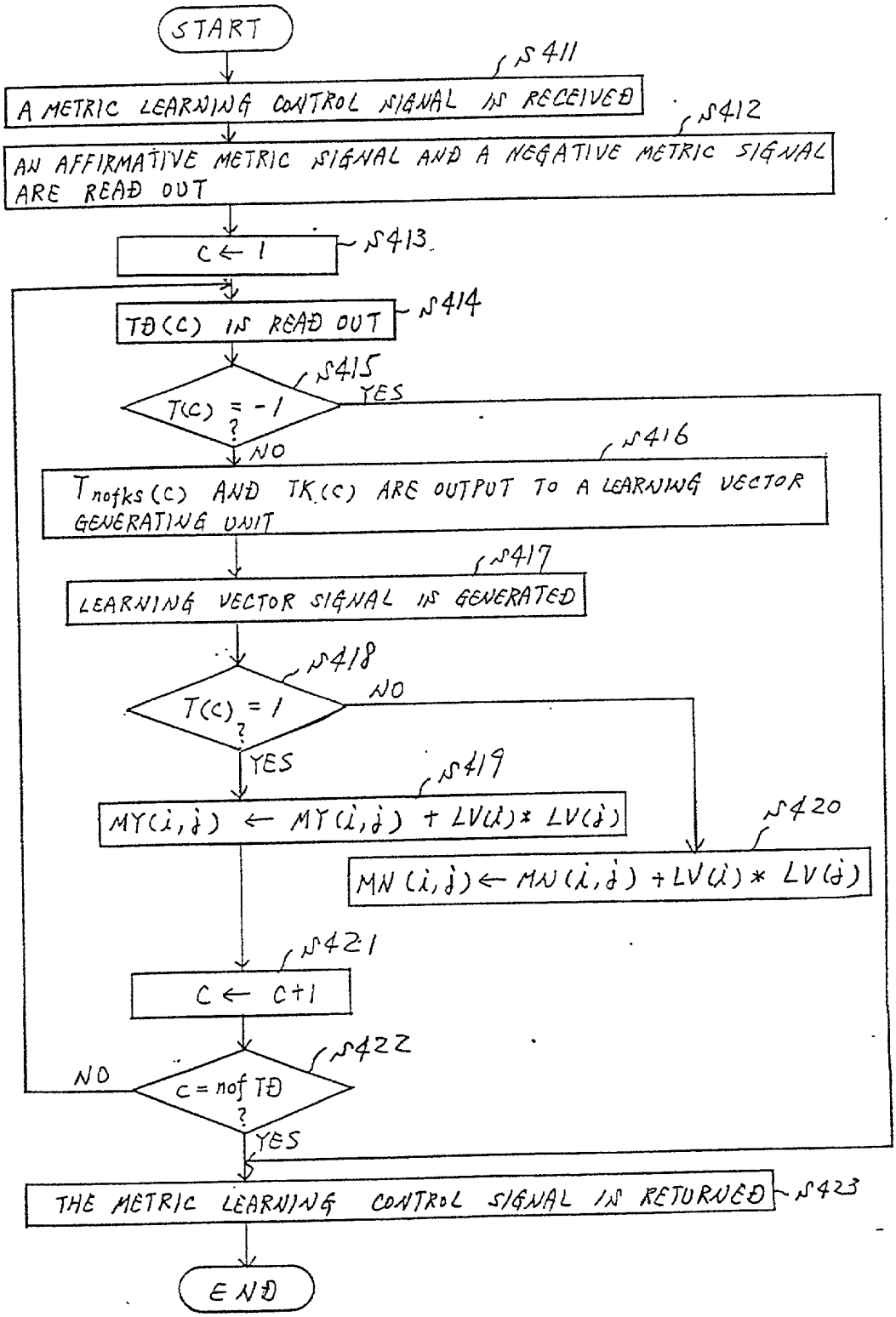

START
S411
A METRIC LEARNING CONTROL SIGNAL IS RECEIVED
S412
AN AFFIRMATIVE METRIC SIGNAL AND A NEGATIVE METRIC SIGNAL ARE READ OUT
C ← 1
S413
TD(C) IS READ OUT
S414
T(C) = -1 ?
S415
YES
NO
S416
Tnofks(C) AND TK(C) ARE OUTPUT TO A LEARNING VECTOR GENERATING UNIT
S417
LEARNING VECTOR SIGNAL IS GENERATED
T(C) = 1 ?
S418
NO
YES
S419
MY(i,j) ← MY(i,j) + LV(i) * LV(j)
S420
MN(i,j) ← MN(i,j) + LV(i) * LV(j)
S421
C ← C+1
C = nof TD ?
S422
NO
YES
THE METRIC LEARNING CONTROL SIGNAL IS RETURNED
S423
END

FIG. 10

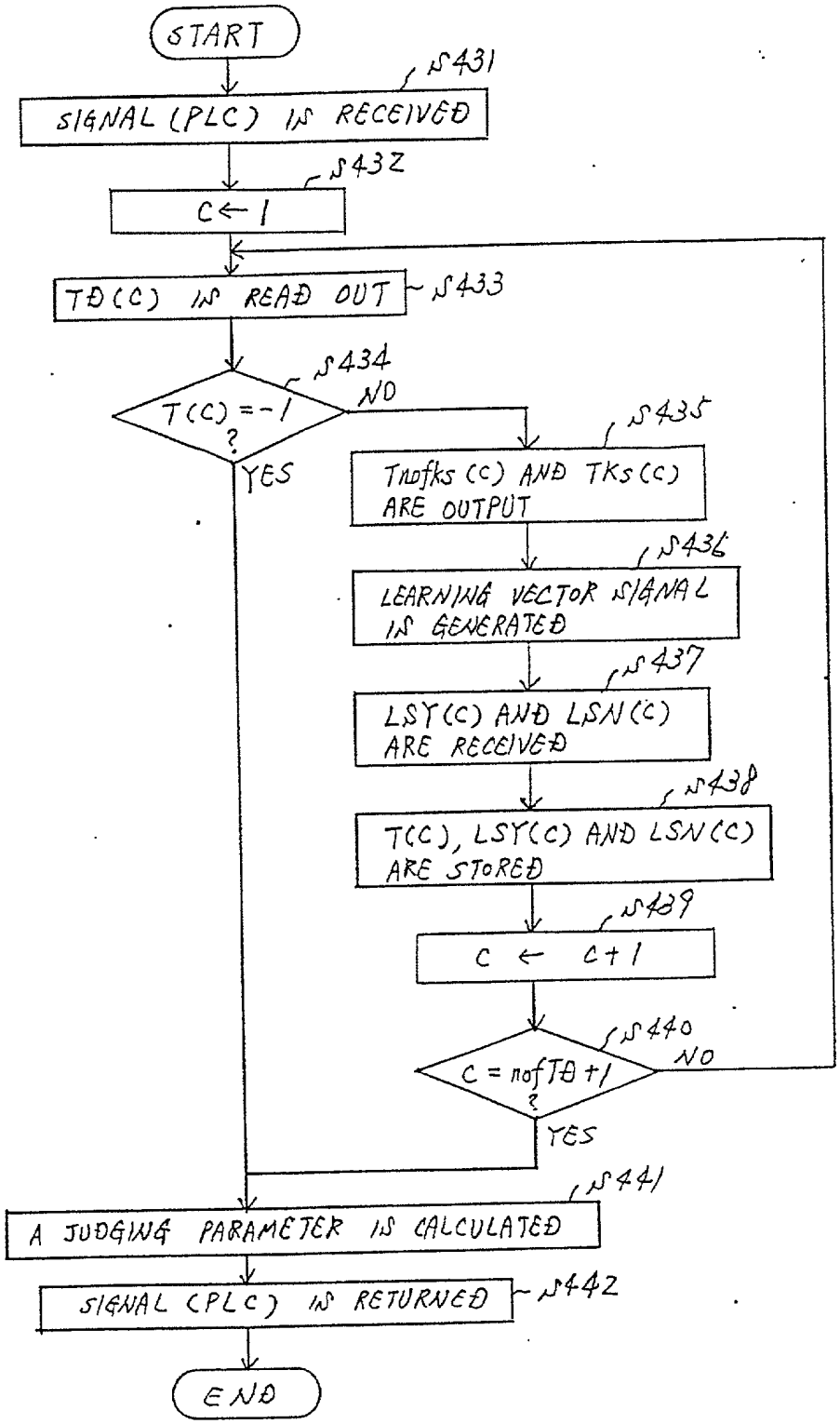

START
S431
SIGNAL (PLC) IS RECEIVED
S432
C ← 1
TD(C) IS READ OUT
S433
S434
T(C) = -1 ?
NO
YES
S435
TnofKs(C) AND TKs(C) ARE OUTPUT
S436
LEARNING VECTOR SIGNAL IS GENERATED
S437
LSY(C) AND LSN(C) ARE RECEIVED
S438
T(C), LSY(C) AND LSN(C) ARE STORED
S439
C ← C+1
S440
C = nofTD+1 ?
NO
YES
S441
A JUDGING PARAMETER IS CALCULATED
SIGNAL (PLC) IS RETURNED
S442
END

FIG. 13

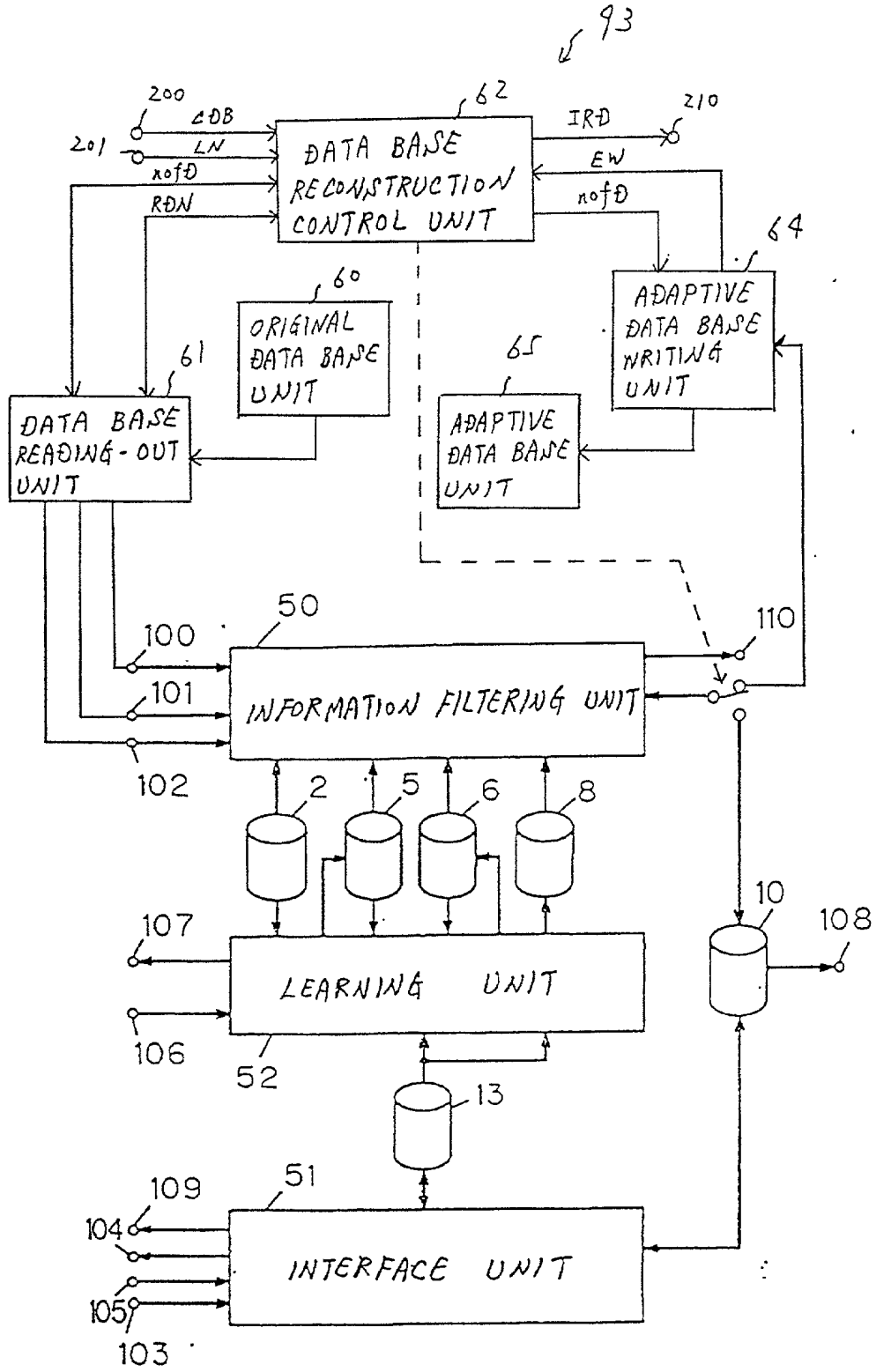

93
200
201
CDB
LN
nofD
RDN
62
DATA BASE RECONSTRUCTION CONTROL UNIT
IRD
210
EW
nofD
64
ADAPTIVE DATA BASE WRITING UNIT
60
ORIGINAL DATA BASE UNIT
61
DATA BASE READING-OUT UNIT
65
ADAPTIVE DATA BASE UNIT
50
100
101
102
INFORMATION FILTERING UNIT
110
2
5
6
8
10
107
108
LEARNING UNIT
106
52
13
109
51
104
105
103
INTERFACE UNIT

FIG. 15

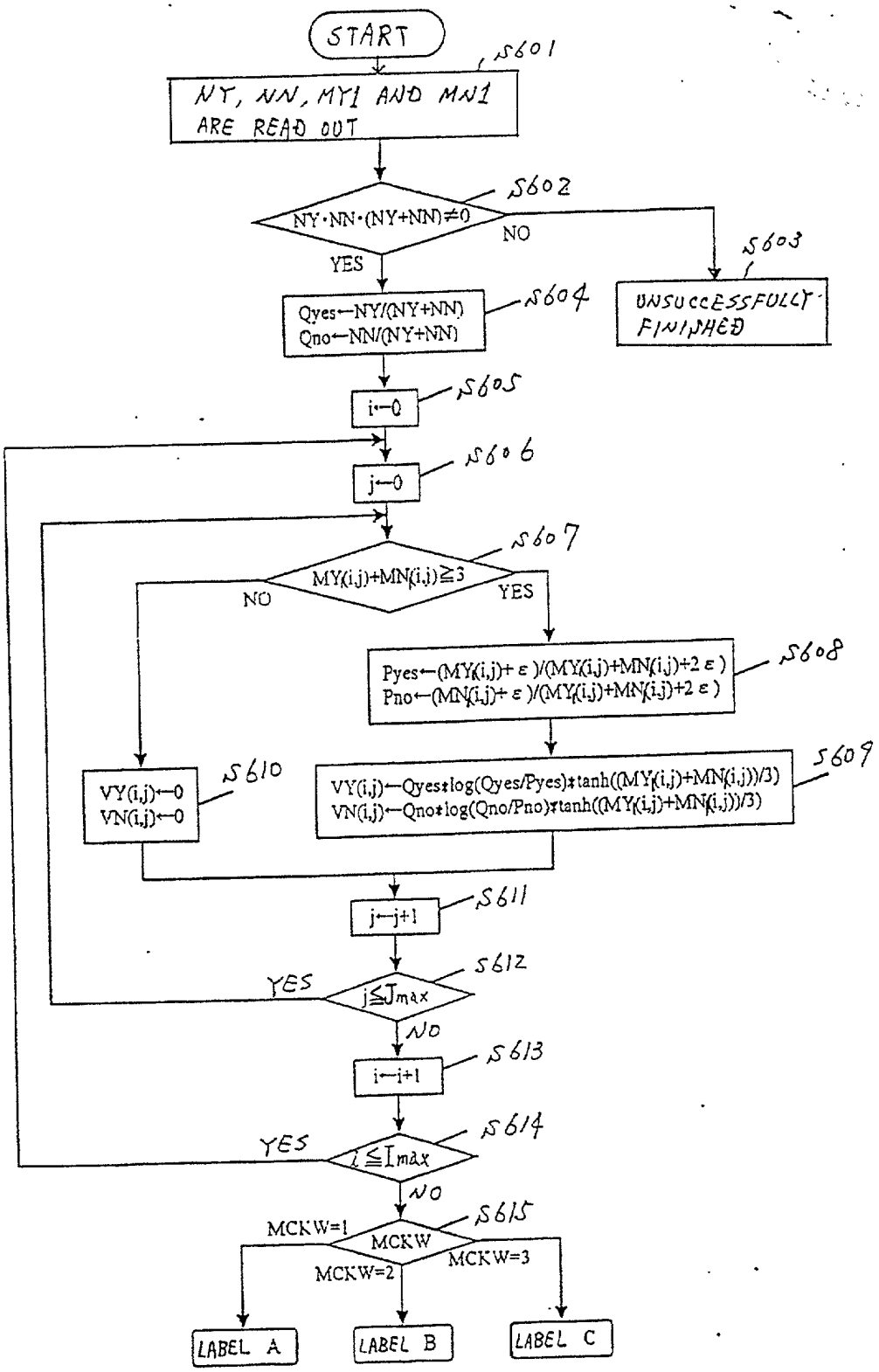

START
S601
NY, NN, MY1 AND MN1 ARE READ OUT
S602
NY·NN·(NY+NN)≠0
NO
YES
S603
UNSUCCESSFULLY FINISHED
S604
Qyes←NY/(NY+NN)
Qno←NN/(NY+NN)
S605
i←0
S606
j←0
S607
MY(i,j)+MN(i,j)≧3
NO
YES
S608
Pyes←(MY(i,j)+ε)/(MY(i,j)+MN(i,j)+2ε)
Pno←(MN(i,j)+ε)/(MY(i,j)+MN(i,j)+2ε)
S609
VY(i,j)←Qyes*log(Qyes/Pyes)*tanh((MY(i,j)+MN(i,j))/3)
VN(i,j)←Qno*log(Qno/Pno)*tanh((MY(i,j)+MN(i,j))/3)
S610
VY(i,j)←0
VN(i,j)←0
S611
j←j+1
S612
YES
j≦Jmax
NO
S613
i←i+1
S614
YES
i≦Imax
NO
S615
MCKW
MCKW=1
MCKW=2
MCKW=3
LABEL A
LABEL B
LABEL C

FIG. 18

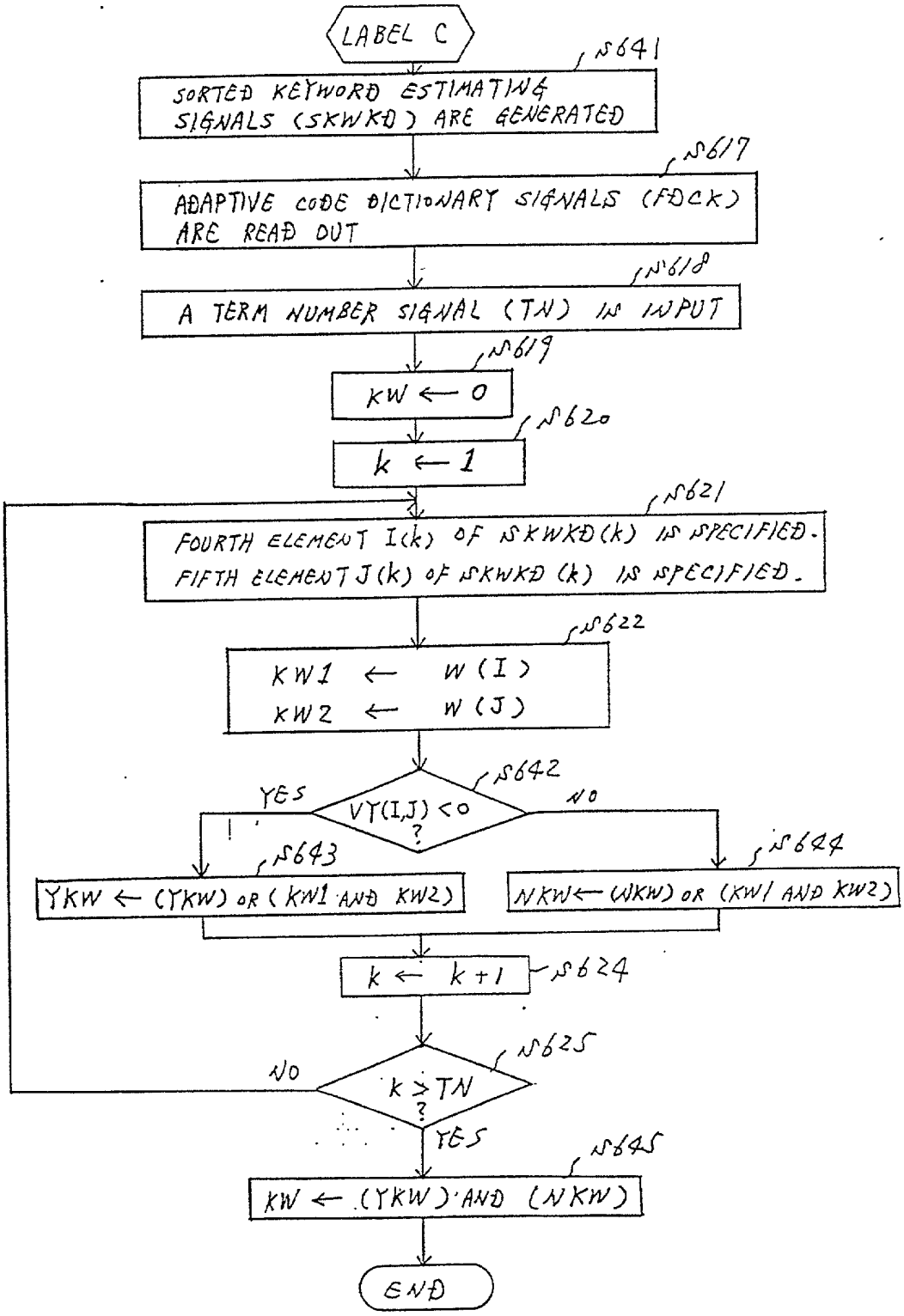
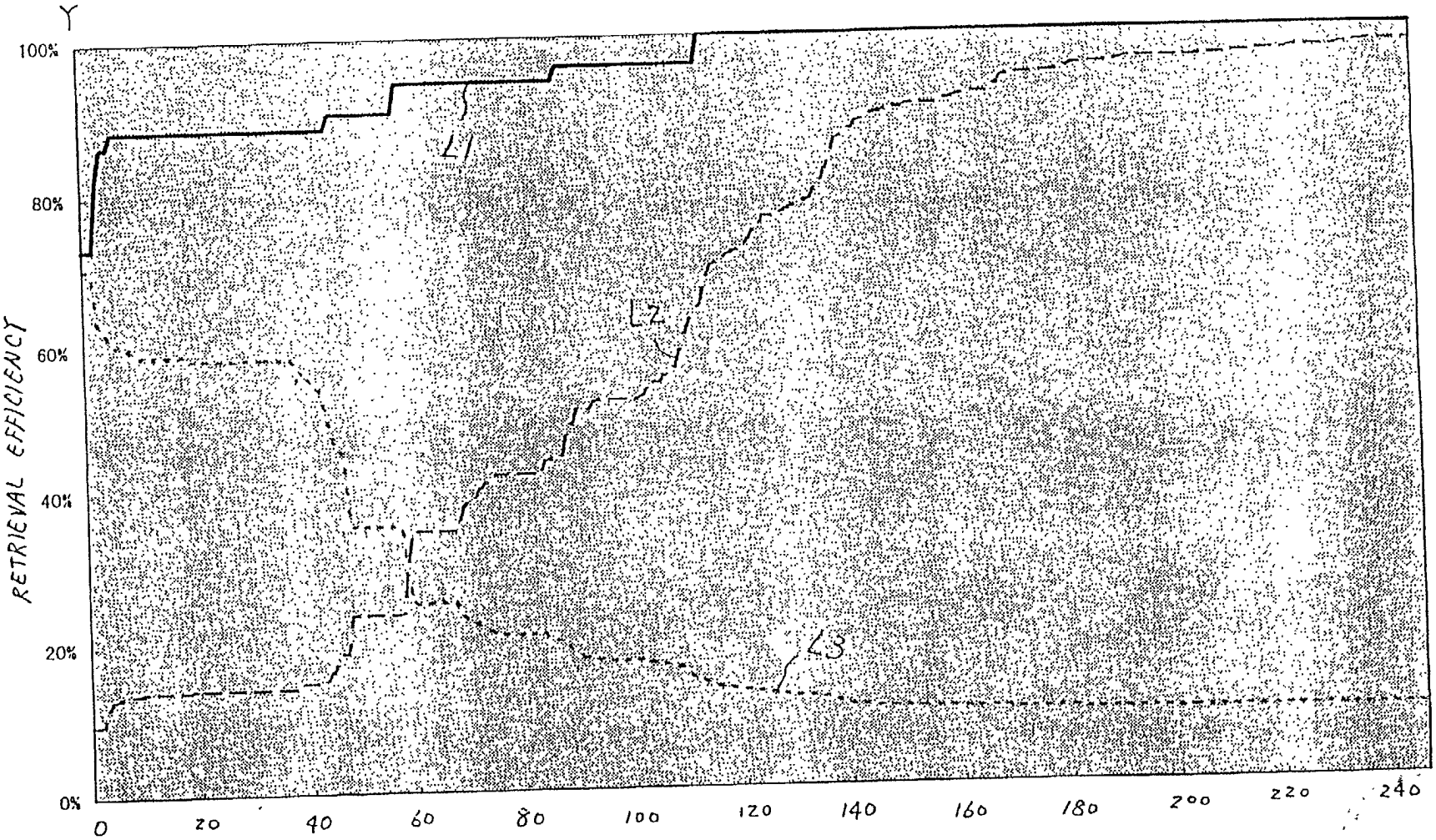

LABEL C
S641
SORTED KEYWORD ESTIMATING SIGNALS (SKWKD) ARE GENERATED
S617
ADAPTIVE CODE DICTIONARY SIGNALS (FDCK) ARE READ OUT
S618
A TERM NUMBER SIGNAL (TN) IS INPUT
S619
KW ← 0
S620
k ← 1
S621
FOURTH ELEMENT I(k) OF SKWKD(k) IS SPECIFIED.
FIFTH ELEMENT J(k) OF SKWKD(k) IS SPECIFIED.
S622
KW1 ← W(I)
KW2 ← W(J)
S642
VT(I,J) < 0 ?
YES
NO
S643
YKW ← (YKW) OR (KW1 AND KW2)
S644
NKW ← (NKW) OR (KW1 AND KW2)
S624
k ← k+1
S625
k ≥ TN ?
NO
YES
S645
KW ← (YKW) AND (NKW)
END

FIG. 19


Y
100%
80%
60%
40%
20%
0%
RETRIEVAL EFFICIENCY
L1
L2
L3
X
0
20
40
60
80
100
120
140
160
180
200
220
240
THE NUMBER OF TERMS
IN A KEYWORD RETRIEVAL EQUATION